Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

DRAFT
Conditional Major, Construction / Operating
Permit: F-06-062
Wilco Refining, LLC.
Albany, KY 42063
September 13, 2007
Sukhendu K. Majumdar, Reviewer

SOURCE ID:	21-053-00012
AGENCY INTEREST:	4298
ACTIVITY:	APE20060001

Wilco Refining, LLC has submitted a permit renewal application that was received by the Division for Air Quality on August 22, 2006. Wilco Refining, LLC at Albany, KY is a petroleum refinery facility (SIC code 2911) which will be processing crude oil from the drilling wells owned by the company. Crude oil processing capacity has been listed as of 2,520 barrels per day. Presently the facility is not operating. The Division for Air Quality issued an initial conditional major operating permit to the facility on May 17, 2002. Wilco Refining is now planning to start operating the refinery in 2007 and has applied for renewal of the operating permit (F-02-007).

SOURCE DESCRIPTION:

Wilco Refining, LLC is a petroleum refinery that has accepted permit limits and conditions to preclude the applicability of 401 KAR 52:020 Title V Permit and 40 CFR 63, Subpart CC. The VOC emissions shall not equal or exceed 90 tons per year.

Crude oil is transferred to one of two large fixed roof storage tanks that will have control devices in place per a compliance schedule (180 days after operation begins). The crude oil is heated in crude oil heater and fed to a distillation tower where fractions of petroleum distillates, gasoline, kerosene, diesel and tar are produced and pumped to separate storage tanks. These storage tanks also have control devices of either an internal floating roof or connected to a blow-down device. The blow-down device and displaced air during the truck loading operation is fed to a flare.

The reformer heater would use only propane when built. Process gas is burned in the distillation tower heaters. There are no cracking operations or sulfur recovery units. There is a sulfur removal unit with two towers in series, just prior to the distillation tower. The sulfur removal towers contain metal shavings that are supposed to remove sulfur, but this is an unproven technology and emission calculations are not clear, possibly non-existent.

Wilco Refining, LLC has not been in operation since 2000. The facility was recently sold and is now a privately owned company that also owns an oil-drilling company.
Refining operation has been grouped into five principal areas:

1. Refining Processing Area
2. Storage Tanks and Flare
3. Indirect Fired process Heaters and Exchangers

4. Truck Loading/unloading Operations
5. Truck Haul Road

COMMENTS:

The Wilco Refining has not started operating the crude oil refining operation, so the actual emissions from the facility have not been determined. The source has applied for the renewal of the permit as a step to start operating crude oil refining. In permit F-02-007, the source had a plan to build a catalytic cracking reformer unit, but the unit was never built.

Emissions factors from AP-42 were used for pipeline equipment VOC analysis. A TANKS 4.01 model was used to estimate VOC emissions from each storage tank.

APPLICABLE REGULATIONS:

401 KAR 59:015	New Indirect Heat Exchangers
401 KAR 59:105	New Process Gas Stream
401 KAR 63:015	Flare
401 KAR 63:020,	Potentially Hazardous Matter or Toxic Substances
40 CFR 60.100-109, Subpart J:	Standard of Performance for Petroleum Refineries
40 CFR 60.110b-117b, Subpart Kb:	Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction or Modification
40 CFR 60.500-506, Subpart XX:	Standards of Performance for Bulk Gasoline Terminals
40 CFR 60.590-593, Subpart GGG:	Standard Performance for Equipment Leaks of VOC in Petroleum Refineries.

NON-APPLICABLE REGULATIONS:

401 KAR 59:046, Selected New Petroleum Refining Processes and Equipment. This source has elected to take emission limits to preclude the major source new source performance standards.

401 KAR 59:050, New Storage Vessels for Petroleum Liquids. The gasoline storage tanks are greater than 40,000 gallons.

401 KAR 61:015, Existing Indirect Heat Exchangers.

40 CFR 63 Subpart H, National Emission Standard for Organic Hazardous Air Pollutants for Equipment Leaks. The controlled PTE for single HAP emissions are below 10 tons per year and for combined HAPs below 25 tons per year.

40 CFR 63 Subpart CC, National Emissions Standard for Hazardous Air Pollutants from Petroleum Refineries. The controlled PTE for single HAP emissions are below 10 tons per year and for combined HAPs below 25 tons per year.

Emission Units and description:

Emission Unit: 01 (EP-1 through 10): Tank emissions from storage- raw crude and products
Emission Unit: 02 (EP- 11,12,13): Process heaters
Emission Unit: 03 (EP-14): Product unloading
Emission Unit: 04 (EP-15): Gasoline Tank Blow-down and Flare
Emission Unit: 05 (EP-16): Petroleum process equipment

Emission Unit: 06 (EP-18): Fugitives from haul road

Emission and Operating Caps description:

a. To preclude the applicability of 401 KAR 52:020, Title V permits, the total annual source-wide emissions shall not exceed the following limitations on a twelve (12) consecutive month basis:
   (1) Volatile organic compound (VOC) emissions shall not equal or exceed 90 tons per twelve (12) consecutive month basis;
   (2) Emissions of any single hazardous air pollutants (HAP) shall not exceed 9 tons per twelve (12) consecutive month basis; and
   (3) Emissions of combined hazardous air pollutant (HAPs) shall not exceed 22.5 tons per twelve (12) consecutive month basis.
b. Pursuant to 401 KAR 63:020, no owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

PERIODIC MONITORING:

There are monitoring requirements for tanks, refinery equipment leaks and indirect heat exchangers. Refer to permit F-06-062, Section B, for specific requirements.

OPERATIONAL FLEXIBILITY:
NA

CREDIBLE EVIDENCE:

This permit contains provisions that require specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.